CLAIMS

1. (I) In a vehicle having a right and left side and substantially massive components, and having at least one fixed body member connected with substantial rigidity to substantially all of the substantially massive components of said vehicle, a vehicle structure having an operating position attained during normal driving conditions and an extended position attained at the time of occupant access to the vehicle, said vehicle structure having a means to divert the impact energy in lateral impacts to be absorbed by said vehicle through the at least one fixed body member while releasing the occupants each having mass, weight, left and right sides, a back and a bottom, to move independently of said vehicle, in a passenger support mechanism with a plurality of elements in a predetermined controlled fashion, in order to minimize injury to such occupants.

2.(D) The vehicle structure of claim 1, further comprising:

a) at least one pair of secondary slides each with a first face and a second face, attached by said first face to the at least one fixed body member on the left side and the right side of the vehicle respectively, the members of each pair being mounted at the same longitudinal position of said vehicle;

b) a plurality of passenger support mechanisms each having ejecting elements and each of said passenger support mechanisms mounted in pairs on each of the left and the right sides of the said vehicle on at least one lateral axis;

c) at least one pair of a safety beam lower element each having a first face and a second face, and said second face attached to the second face of said secondary slides such that, each of said safety beam lower element are normally fixedly attached by said second face to the second face of a member of said pair of secondary slide, but become decoupled and thereafter slidably attached by said second face to said secondary slides along a lateral axis when a lateral shear force greater than a predetermined force is applied to said first face relative to said second face of said secondary slides allowing said safety beam lower element attached to said second face of said secondary slides to slide along said lateral axis relative to said secondary slides, said safety beam lower element mounted on each of said secondary slides being constructed such that after they are decoupled, they can be guided laterally by, and are slidably attached to at least one member of a pair of said secondary slides and further positioned on the said secondary slides at all times such that they are not obstructed by any elements of the vehicle in the event that said safety beam lower element need under collision conditions to traverse the center of the vehicle to the further side of the vehicle;

d) at least one pair of an safety beam upper element each member of said pair having a first face and a second face, and each of the members of said pair mounted with its first face to the first face of each member of said pair of said safety beam lower element on the left and the right sides of the vehicle, and fixedly attached by said second face to the ejecting elements of one of the passenger support mechanisms

e) at least one shock-absorbing device and at least one force distributing protector shield both installed to protect each of the pair of passenger support mechanisms, on each of the left and right sides of the vehicle, and locked to the fixed body members of the vehicle when in the operating position; and

f) internal airbags, each mounted on the outer side of each of said passenger support mechanisms, but inside said shock absorbers and protector shields, on both the left and the right sides of the vehicle, such that upon detection of an impact event, the airbag deploys next to said passenger support mechanism(s) to protect the occupants.

3. The vehicle structure of claim 2, wherein said ejecting elements of said passenger support mechanisms comprise the outer arm rest on the entry side of the vehicle.

4. The vehicle structure of claim 2 further comprising a non ejecting element of said passenger support mechanism attached to said safety beam lower element.

9. (D) The vehicle structure of claim 2, wherein said ejecting elements comprise one or more of the elements of said passenger support mechanism that support the back, left side and right side of said passenger, said ejection providing a means for passenger egress and ingress.

10. (D) The vehicle structure of claim 9, wherein said ejection comprises, a downward movement.

11. (D) The vehicle structure of claim 9, wherein said ejection comprises, a rearward movement.

12. (D) The vehicle structure of claim 2, wherein said ejecting elements comprise one or more elements supporting the pelvis and upper legs of said passenger, said ejection providing a means for passenger egress and ingress.

13. (D) The vehicle structure of claim 12, wherein said ejection comprises, an upward movement.

14. (D) The vehicle structure of claim 12, wherein said ejection comprises, a forward movement.

15. (D) The vehicle structure of claim 2, wherein said ejecting elements comprise all support elements for the passenger, and wherein ejection raises the said ejected elements such that they can be subsequently be either translated or rotated over the sill of the vehicle side to allow egress and ingress of said passenger.

16. (D) The vehicle structure of claim 1, further comprising:

a) at least one pair of secondary slides each with a first face and a second face, attached by said first face to the at least one fixed body member on the left side and the right side of the vehicle respectively, the members of each pair being mounted at the same longitudinal position of said vehicle;

b) a plurality of passenger support mechanisms each having two interlocking parts consisting of an ejecting element that may be displaced to facilitate egress and ingress, and non-ejecting element and each of said passenger support mechanisms mounted in pairs on each of the left and the right sides of the said vehicle on at least one lateral axes said non-ejecting element of each passenger support mechanism, having a support face attached to the second face of said secondary slides such that, each of said non-ejecting elements of said passenger support mechanisms are normally fixedly attached by said support face to the second face of a member of said pair of secondary slide, but become decoupled and thereafter slidably attached by said support face to said secondary slides along a lateral axis when a lateral shear force greater than a predetermined force is applied to said first face relative to said second face of said secondary slides allowing said non-ejecting elements of said passenger support mechanism to detach from said secondary slides and slide along said lateral axis relative to said secondary slides, said non-ejecting elements of the passenger support mechanism mounted on each of said secondary slides being constructed such that after they are decoupled, they can be guided laterally by, and are slidably attached to either member of a pair of said secondary slides and further positioned on said secondary slides at all times such that they are not obstructed by any elements of the vehicle in the event that said element of the passenger support mechanism need under collision conditions to traverse the center of the vehicle to the further side of the vehicle, said two interlocking parts of said passenger support mechaism being locked together while the vehicle is in operation and unlocked for egress and ingress of the passenger;

c) at least one shock-absorbing device and at least one force distributing protector shield both installed to protect each member of the pair of passenger support mechanisms, on each of the left and right sides of the vehicle, said force distributing protector shield being pivotally mounted to the fixed members of the vehicle and locked to the fixed body members of the vehicle when in the operating position; and

d) preinflated internal airbags with a first face and a second face, the first face mounted on the outer side of each of the ejecting elements of the passenger support mechanism, and said second face attached to said shock absorbers and protector shields, on both the left and the right sides of the vehicle, such that upon detection of an impact event, the airbag deploys next to said passenger support mechanism(s) and deploying upwards and inwards to protect the passengers.

41. A vehicle with a vehicle structure supporting a passenger support mechanism with an occupant, said vehicle structure having an operating position attained during normal driving conditions and an extended position attained at the time of occupant access to the vehicle, said vehicle structure having a means to separate an ejecting part of said passenger support mechanism from a non-ejecting part of said passenger support mechanism in the extended position of said vehicle structure such that at the time of egress and ingress to the vehicle by said occupant, the ejecting part displaces from said non-ejecting part to allow egress and ingress of said occupant without obstruction to said occupant, and said ejecting part having a means to provide lateral and vertical support to said occupant in the operating position.

42. A vehicle with a vehicle structure as in 41, wherein said passenger support mechanism is decoupled from said vehicle during lateral impact thereby allowing said occupant in said passenger support mechanism to move in a predefined controlled manner ot minimize injury.

43.(D) The vehicle structure of claim 1, further comprising:

a) at least one pair of secondary slides, attached to the at least one fixed body member on the left side and the right side of the vehicle respectively, the members of each pair being mounted at the same longitudinal position of said vehicle;

b) a plurality of passenger support mechanisms each having ejecting element and a non-ejecting element and each of said passenger support mechanisms mounted in pairs on each of the left and the right sides of the said vehicle on at least one lateral axis;

c) a means to attach each of said secondary slides to each of said non ejecting element of said passenger support mechanism such that, said non-ejecting element is fixedly attached to said secondary slide, but becomes decoupled and thereafter slidably attached to said secondary slide along a lateral axis when a lateral shear force greater than a predetermined force is applied to said non ejecting element with regard to

said secondary slide allowing said non-ejecting part to slide along said lateral axis relative to said secondary slide;

d) a means to attach each of said ejecting elements to said non-ejecting elements such that said ejecting elements may be displaced to allow egress and ingress of aid occupant without obstruction;

e) at least one shock-absorbing device and at least one force distributing protector shield both installed to protect each of the pair of passenger support mechanisms, on each of the left and right sides of the vehicle, and locked to the fixed body members of the vehicle when in the operating position; and

f) internal airbags, each mounted on the outer side of each of said passenger support mechanisms, but inside said shock absorbers and protector shields, on both the left and the right sides of the vehicle, such that upon detection of an impact event, the airbag deploys next to said passenger support mechanism(s) to protect the occupants.

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